In the Claims

Please cancel claims 1-21 and add new claims 22- 39 as follows:

1. (Withdrawn)

2. (Withdrawn)

3. (Withdrawn)

4. (Withdrawn)

5. (Withdrawn)

6. (Withdrawn)

7. (Withdrawn)

8. (Withdrawn)

9. (Withdrawn)

10. (Withdrawn)

11. (Withdrawn)

12. (Withdrawn)

13. (Withdrawn)

14. (Withdrawn)

15. (Withdrawn)

16. (Withdrawn)

17. (Withdrawn)

18. (Withdrawn)

19. (Withdrawn)

20. (Withdrawn)

21. (Withdrawn)

22. (New) A thermal mass flow controller comprising:

a thermal mass flow controller housing including a fluid input port and a fluid output port and a bypass channel disposed between the input and output ports;

a thermal mass flow sensor assembly operatively coupled to the thermal mass flow controller housing for measuring a flow of fluid through the bypass channel, the thermal mass flow sensor assembly including a sensor housing enclosing a mass flow sensor tube, a mounting portion coupled to the thermal mass flow controller housing and a thermal ground device coupled between the sensor housing and the mounting portion for providing a solitary thermal conductive path between the sensor housing and the mounting portion; and

a valve assembly mounted to the thermal mass flow controller housing for controlling the flow of fluid through the bypass channel.

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23. (New) The thermal mass flow controller of claim 22, further including a heat sink device thermally coupled to the valve assembly for conducting thermal energy from the valve assembly.

24. (New) The thermal mass flow controller of claim 23 wherein the heat sink device includes a mass which substantially surrounds the valve assembly.

25. (New) The thermal mass flow controller of claim 24 wherein the valve assembly is mounted to the thermal mass flow controller housing proximate the fluid input port.

26. (New) The thermal mass flow controller of claim 25 wherein the thermal mass flow sensor assembly is mounted proximate the fluid output port.

27. (New) The thermal mass flow controller of claim 24 wherein a greater portion of the mass is disposed on a side of the valve assembly opposite the thermal mass flow sensor assembly.

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28. (New) The thermal mass flow controller of claim 26 wherein a greater portion of the mass is disposed on a side of the valve assembly opposite the thermal mass flow sensor assembly.

29. (New) The thermal mass flow controller of claim 24 wherein the heat sink device includes fins mounted to a surface thereof for accelerating the conduction of thermal energy from the valve assembly.

30. (New) The thermal mass flow controller of claim 24 further including an enclosure device coupled to the thermal mass flow controller housing and enclosing the thermal mass flow sensor assembly and the valve assembly therein, the enclosure device contacting the heat sink device thereby forming a conductive thermal path from the heat sink device to an area external to the enclosure device through the enclosure device.

31. (New) The thermal mass flow controller of claim 26 further including an enclosure device coupled to the thermal mass flow controller housing and enclosing the thermal mass flow sensor assembly and the valve assembly therein, the enclosure device

contacting the heat sink device thereby forming a conductive thermal path from the heat sink device to an area external to the enclosure device through the enclosure device.

32. (New) The thermal mass flow controller of claim 29 wherein the fins are positioned on the heat sink device such that the thermal energy from the valve assembly is conducted away from the thermal mass flow sensor assembly.

33. (New) The thermal mass flow controller of claim 27 wherein said greater mass is positioned on the heat sink device such that the thermal energy from the valve assembly is conducted away from the thermal mass flow sensor assembly.

34. (New) The thermal mass flow controller of claim 23 wherein the sensor housing has a first dimension and the thermal ground device couples the sensor housing to the mounting portion proximate a midpoint of the first dimension.

35. (New) The thermal mass flow controller of claim 34 wherein the first dimension is a longitudinal dimension.

36. (New) The thermal mass flow controller of claim 35 wherein the sensor housing forms a cavity around an operational portion of the mass flow sensor tube, such that the sensor housing isolates the operational portion of the mass flow sensor tube from contact with the thermal ground device.

37. (New) The thermal mass flow controller of claim 34 wherein the thermal ground device has a width dimension in a same plane as the first dimension of the sensor housing, and wherein the width dimension of the thermal ground device is less than the first dimension of the sensor housing.

38. (New) The thermal mass flow controller of claim 35, wherein the thermal ground device has a width dimension which is in a same plane as the longitudinal

dimension of the sensor housing, and wherein the width dimension of the thermal ground device is less than the longitudinal dimension of the sensor housing.

39. (New) The thermal mass flow controller of claim 36 wherein the operational portion of the mass flow sensor tube includes first and second resistive coils wound around the mass flow sensor tube and wherein a distance between a midpoint of the first resistive coil and the thermal ground device is substantially equal to a distance between a midpoint of the second resistive coil and the thermal ground device.